

Application No.: 09/961,091

Case No.: 54404US008

Amendments to the Specification:

On page 1, please add the following paragraph at the beginning of the application:

A1
This application is a continuation of U.S. Ser. No. 09/235,720, filed January 22, 1999, which is a continuation-in-part of 09/099,269, filed June 18, 1998; 09/099,565, filed June 18, 1998; 09/106,506, filed June 18, 1998; 09/100,163, filed June 18, 1998; 09/099,632, filed June 18, 1998; 09/099,555, filed June 18, 1998; and 09/099,562, filed June 18, 1998, which is a continuation-in-part of U.S. Ser. Nos. 08/905,481, filed August 9, 1997.

On page 6, please replace the paragraph beginning at line 23 with the following:

A2
Figs. 2a-2j illustrate additional medical dressings and medical wound drains of the present invention;

On page 9, please replace the paragraph beginning at line 1 with the following:

A3
The invention's fluid control films can be formed from any thermoplastic materials suitable for casting, or embossing including, for example, polyolefins, polyesters, polyamides, poly(vinyl chloride), polyether esters, polyimides, polyesteramide, polyacrylates, polyvinylacetate, hydrolyzed derivatives of polyvinylacetate, etc. Polyolefins are preferred, particularly polyethylene or polypropylene, blends and/or copolymers thereof, and copolymers of propylene and/or ethylene with minor proportions of other monomers, such as vinyl acetate or acrylates such as methyl and butylacrylate. Polyolefins are preferred because of their excellent physical properties, ease of processing, and typically lower cost than other thermoplastic materials having similar characteristics. Polyolefins readily replicate the surface of a casting or embossing roll. They are tough, durable and hold their shape well, thus making such films easy to handle after the casting or embossing process. Hydrophilic polyurethanes are also preferred for their physical properties and inherently high surface energy. Alternatively, fluid control films can be cast from thermosets (curable resin materials) such as polyurethanes, acrylates, epoxies and silicones, and cured by exposure to heat or UV or E-beam radiation, or moisture. These materials may contain various additives including surface energy modifiers (such as surfactants and hydrophilic polymers), plasticizers, antioxidants, pigments, release agents, antistatic agents and the like. Suitable fluid control films also can be manufactured using pressure sensitive adhesive materials. In some cases the channels may be formed using inorganic materials (e.g.,

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glass, ceramics, or metals). Preferably, the fluid control film substantially retains its geometry and surface characteristics upon exposure to liquids. The fluid control film may also be treated to render the film biocompatible. For example, a heparin coating may be applied.

On page 13, please replace the paragraph beginning at line 16 with the following:

A4

As previously mentioned, the channels of fluid control films of the present invention can be of any geometry that provides desired liquid transport. In some embodiments, the fluid control film will have primary channels on only one major surface as shown in Figs. 6a-6c and 6g, such as on first major surface 613 but not on second major surface 615, shown in Fig. 6a. In other embodiments, however, the fluid control film will have primary channels on both major surfaces, as shown in Figs. 6i and 6j.

On page 14, please replace the paragraph beginning at line 3 with the following:

A5

As shown in Fig. 6b, within layer 612b channels 616' have a wider flat valley between slightly flattened peaks 618'. Like the Fig. 6a embodiment, a cap layer can be secured along one or more of the peaks 618' to define discrete channels 616'. In this case, bottom surfaces 630 extend between channel sidewalls 631, whereas in the Fig. 6a embodiment, sidewalls 617 connect together along lines.

On page 14, please replace the paragraph beginning at line 8 with the following:

A6

Fig. 6c illustrates a configuration where wide channels 632 are defined between peaks 618'' in layer 612c, but instead of providing a flat surface between channel sidewalls, a plurality of smaller peaks 633 are located between the sidewalls of the peaks 618''. These smaller peaks 633 thus define secondary channels 634 therebetween. Peaks 633 may or may not rise to the same level as peaks 618'', and as illustrated create a first wide channel 632 including smaller channels 634 distributed therein. The peaks 618'' and 633 need not be evenly distributed with respect to themselves or each other.

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On page 16, please replace the paragraph beginning at line 1 with the following:

A7
Figs. 6i and 6j illustrate fluid control films having primary channels on both major surfaces. As shown in Fig. 6i, the primary channels 622 within layer 612i may be laterally offset from one surface to the other surface or may be aligned directly opposite each other as shown in Fig. 6j. A fluid control film with offset channels as shown in Fig. 6i provides a maximum amount of surface area for wicking while at the same time using a minimum amount of material. In addition, a fluid control film with offset channels can be made so as to feel softer, due to the reduced thickness and boardiness of the sheet, than a fluid control film with aligned channels as shown in Fig. 6j. As shown in Fig. 6j, fluid control films ~~612~~ 612i of the invention may have one or more holes or apertures 624 therein, which enable a portion of the liquid in contact with the front surface of the fluid control film to be transported to the back surface of the film, to improve liquid control. The apertures need not be aligned with the notch of a channel and do not need to be of about equal width as the channels. The surfaces of the fluid control film within the apertures is preferably hydrophilic.

On page 16, please replace the paragraph beginning at line 14 with the following:

A8
As illustrated in Figs. 6g and 6i, in each primary channel (602, 622) between sidewalls (604, 620) are at least two secondary channels (603, 623) and at least two notches (605, 625), the notch (605, 625) or notches of each secondary channel (603, 623) is separated by a secondary peak (606, 626). Generally, each secondary channel will generally have only one notch, but a secondary channel will have two notches if the secondary channel is rectangular. The secondary peak (606, 626) for V-channel shaped secondary channels is generally characterized by an included angle β which is generally equal to $(\alpha^1 + \alpha^2)/2$ where α^1 and α^2 are the included angles of the two adjacent V-channel shaped secondary channels (603, 623), assuming that the two sidewalls forming each secondary channel are symmetrical and not curved. Generally, the angle β would be from about 10° to about 120° , preferably from about 10° to about 90° , and most preferably from about 20° to about 60° . The secondary peak could also be flat (in which case the included angle would theoretically be 0°) or even curved, e.g., convex or concave, with no distinct top or included angle. Preferably, there are at least three secondary channels (603, 623)